

# 1. PURPOSE AND NEED

## 1.1 Introduction

Private Fuel Storage L.L.C. (PFS), a limited liability company owned by eight U.S. power utilities, proposes to construct and operate a privately-owned independent spent fuel storage installation (ISFSI) on the Reservation of the Skull Valley Band of Goshute Indians (Reservation) (see Figure 1.1). The Reservation is bordered on all sides by Tooele County, Utah. To transport spent nuclear fuel (SNF) to the ISFSI, PFS proposes to construct and operate a rail siding and rail line on land managed by the U.S. Department of Interior's Bureau of Land Management (BLM). The project, as proposed, requires approval from four Federal agencies: the U.S. Nuclear Regulatory Commission (NRC), the U.S. Department of Interior's Bureau of Indian Affairs (BIA) and BLM, and the U.S. Surface Transportation Board (STB). The NRC, BIA, BLM, and STB have cooperated in the preparation of this draft environmental impact statement (DEIS).

This DEIS evaluates the potential environmental effects of the ISFSI proposed by PFS, including the construction and operation of new transportation facilities that would provide access to the proposed ISFSI, and a consideration of alternatives to that proposal. This DEIS has been prepared in compliance with the National Environmental Policy Act of 1969 (NEPA), NRC regulations for implementing NEPA (10 CFR Part 51), and the guidance provided by the Council on Environmental Quality (CEQ) regulations implementing the procedural provisions of NEPA (40 CFR Part 1500).

## 1.2 The Proposed Action

The proposed action would include construction and operation of the proposed ISFSI [also called the Private Fuel Storage Facility (PFSF)], including transporting SNF to the proposed PFSF, and the construction of a rail line from Skunk Ridge to the proposed PFSF site (see Figure 1.2 for project locations).

The proposed PFSF would be constructed and operated on the Reservation approximately 44 km (27 miles) west-southwest of Tooele, Utah (see Figure 1.1). PFS proposes to build the ISFSI on a 330-ha (820-acre) site leased from the Skull Valley Band of Goshute Indians (Skull Valley Band). The site (designated Site A) would be located in the northwest corner of the Reservation approximately 6 km (3.5 miles) from the Skull Valley Band's village.

The proposed PFSF would be designed to store up to 40,000 metric tons of uranium (MTU) of SNF. The capacity of the proposed PFSF would be sufficient to store all the SNF from the PFS member utilities, as well as SNF from utilities that are not members of PFS. The eight members of PFS are Indiana-Michigan Power Company (American Electric Power), Consolidated Edison Company of New York, GPU Nuclear Corporation, Northern States Power Company, Illinois Power Company, Southern Nuclear Operating Company, Southern California Edison Company, and Genoa FuelTech, Inc. The locations of their reactors are shown in Figure 1.3.

PFS proposes to use a dual-purpose canister-based system for storage and transportation of the SNF. At the reactor sites of commercial nuclear power plants, the SNF to be shipped to the

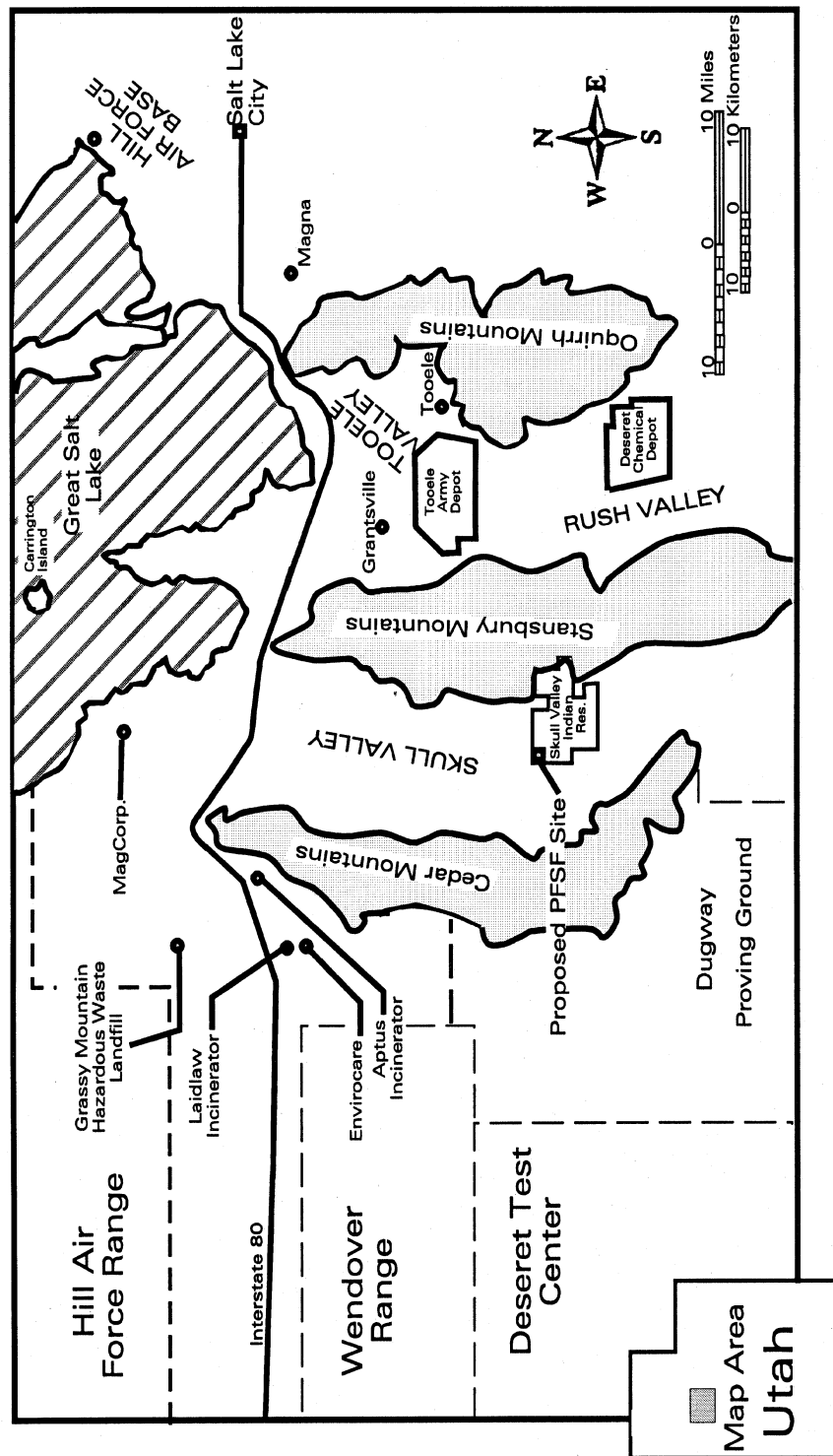


Figure 1.1. Regional location of Skull Valley in Utah.

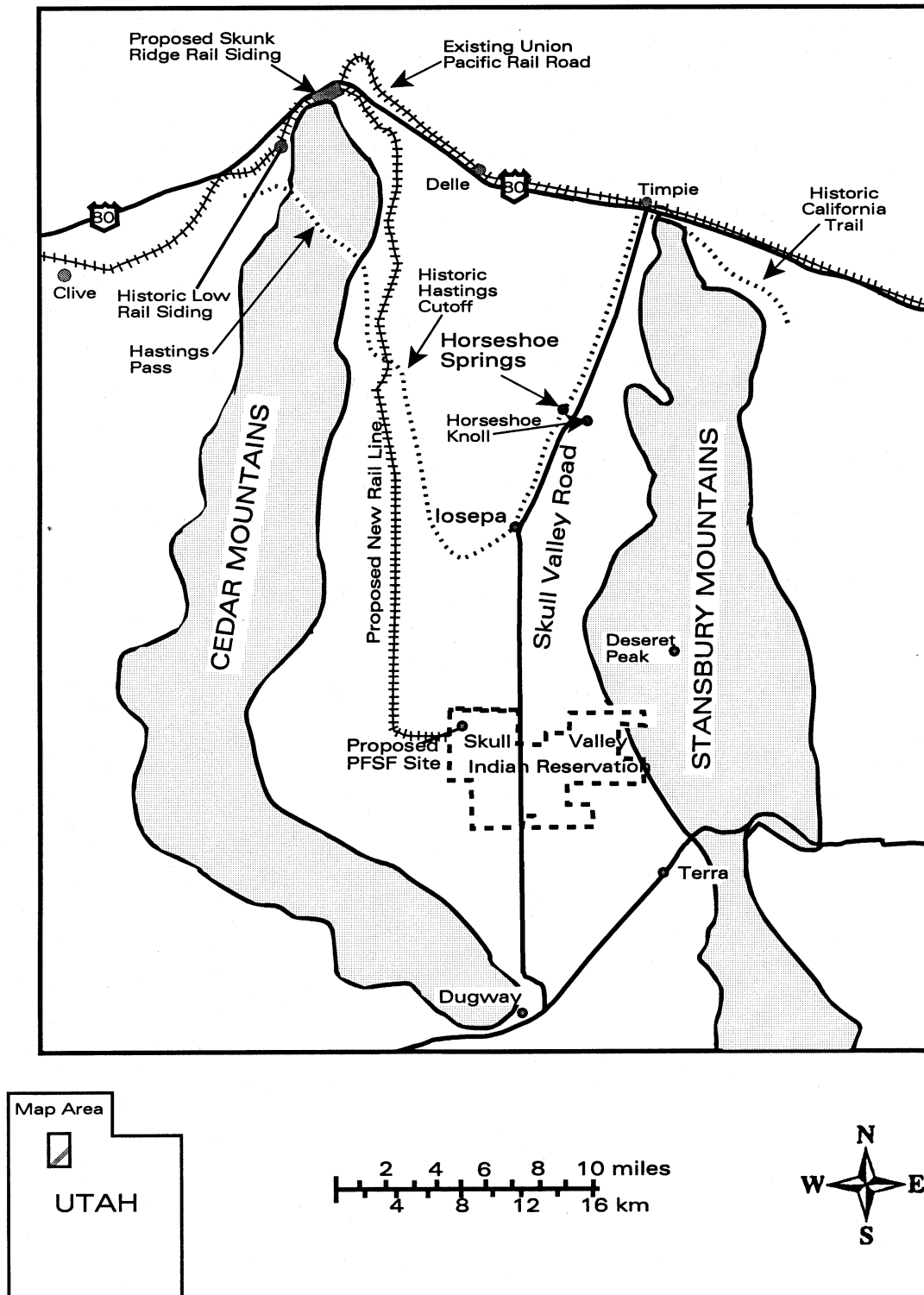


Figure 1.2. The proposed project area in Skull Valley, Utah.

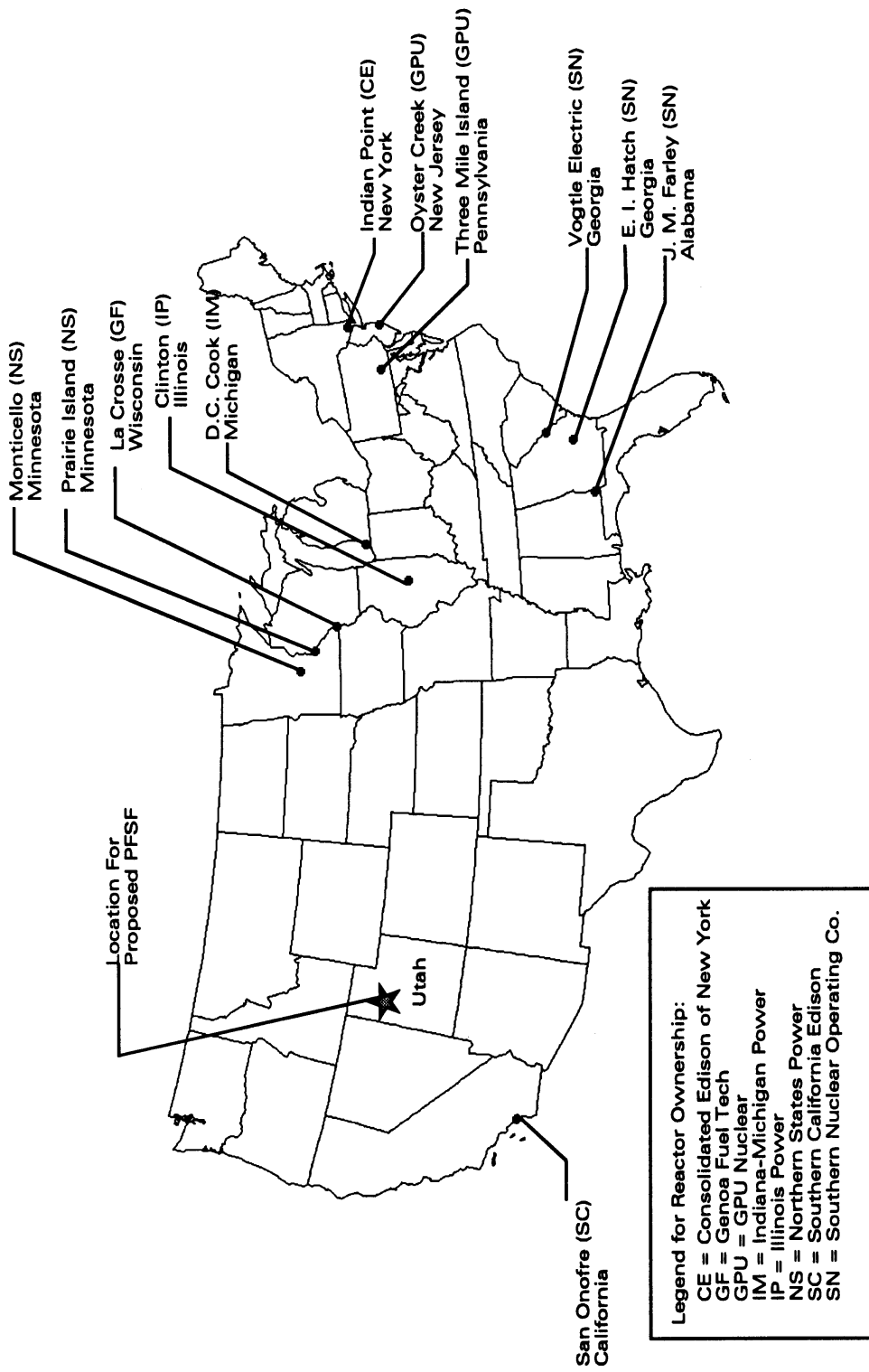


Figure 1.3. Reactors which are owned by the PFS companies.

**BACKGROUND INFORMATION ON SPENT NUCLEAR FUEL**

More than 100 commercial nuclear power plants have been built in the U.S. and about 20 percent of the nation's electricity comes from nuclear power. Like other industrial plants, nuclear power stations produce byproducts from their operating processes. The primary by-product from a nuclear reactor is used or "spent" nuclear fuel (SNF).

Nuclear fuel consists of enriched uranium in small, ceramic-like pellets, slightly larger than pencil erasers. These small pellets produce a tremendous amount of energy when used in a nuclear power plant. For example, a single pellet contains the energy equivalent of almost one ton of coal. The pellets are stacked end-to-end and sealed inside metal tubes 3.5 to 4.5 m (12 to 15 ft) long. The tubes containing the uranium pellets are bundled together in groups of about 200 to form nuclear fuel assemblies (DOE 1999). These fuel assemblies are placed inside a nuclear reactor and function as the core where the nuclear fission process occurs. Fission is a controlled chain reaction, in which atoms split, thereby releasing energy and producing heat. The heat is then used to generate steam and to produce electricity until the fuel becomes "spent," or no longer efficient in generating the amounts of heat needed.

Periodically about one-third of a nuclear reactor's fuel is removed and replaced with new, more efficient fuel (this is called an operating cycle and typically lasts 18–24 months). Thus a reactor may operate for 2–3 operating cycles after it loses full-core offload capability. Full core offload capability refers to a power plant's capability to remove all fuel from the reactor vessel and store it in the spent fuel pool. Radioactive materials remain inside the sealed tubes within the fuel assemblies until termination of the license.

During the term of the operating license, these SNF assemblies are typically stored either under water in pools or in dry storage facilities at the operating reactor site. The water in these pools is circulated to maintain cooling and is monitored for radioactivity and for evidence of tube corrosion. Over time, the fuel assemblies lose heat and also become less radioactive.

proposed PFSF would be placed in sealed metal canisters. These canisters would then be placed inside NRC-approved steel shipping casks for transport by rail to a new rail siding north of the proposed PFSF. The proposed action would allow for local transportation to the proposed PFSF site from the new rail siding via a proposed new rail line (see Figure 1.2). The number of loaded spent fuel canisters (inside shipping casks) to be received at the proposed PFSF is estimated to be between 100 and 200 annually. Each canister would contain approximately 10 MTU of SNF.

At the proposed PFSF site, dry cask storage technology would be used—storing SNF inside sealed metal canisters that would be loaded into steel/concrete storage casks that are then placed on concrete pads. Canister-based systems confine radioactive wastes and would be licensed by the NRC in accordance with 10 CFR Part 72 (NRC requirements for storage of SNF). As many as 4,000 canisters in individual storage casks would be needed to store a maximum of 40,000 MTU of SNF. Phase 1 construction, which would provide an operational facility, is planned to begin upon issuance of the NRC license and effectiveness of the BIA lease and would be completed within 2 years. Ownership and ultimate responsibility for the SNF would continue to remain with the originating utilities, until such time as the SNF is transferred to the U.S. Department of Energy (DOE) for long-term storage or disposal. A more detailed description of the proposed project facilities and the proposed storage system is provided in Section 2.1 of this DEIS.

The proposed PFSF would be licensed by NRC to operate for up to 20 years and the license could be renewed. At the end of the licensed life of the proposed PFSF and prior to the expiration of the

lease, it is expected that SNF would be shipped to a permanent repository. This is consistent with the NRC's Waste Confidence Decision (55 Fed. Reg. 38474; Sept. 18, 1990), which states that at least one mined geological repository will be available by the end of 2025. On December 6, 1999, the NRC issued a Federal Register Notice (64 Fed. Reg. 68005) which presented a status report on the review of the Waste Confidence Decision. The status report stated that "[t]he Commission is of the view that experience and developments since 1990 confirm the Commission's 1990 Waste Confidence findings."

### 1.3 Need for the Proposed Action

The proposed action is intended to satisfy the need for an interim facility that would provide a safe, efficient, and economical alternative to continued SNF storage at reactor sites. Such an interim facility would satisfy a need for additional storage capacity of the PFS members utilities, as well as non-member utilities, who face storage limitations, and ensure that (1) operation of a nuclear power plant would not cease before operating license expiration because of a lack of SNF storage capacity; (2) permanently shut-down reactors could be decommissioned sooner, resulting in a savings to the utilities and earlier use of the land for other activities; and (3) for some utilities, an economical alternative to at-reactor storage would be available. In addition, the proposed action would serve the Skull Valley Band's economic development, consistent with the BIA's trust responsibility.

Storage of SNF at commercial nuclear reactor sites is an increasingly important concern to the utilities operating these facilities. As set forth below, many reactor owners are faced with the possibility that their facilities will be unable to store SNF and be forced to halt power generation operations before their operating licenses expire.

The on-site SNF storage capacities (i.e., of spent fuel pools) of many U.S. nuclear power plants were designed to accommodate only a few reactor core discharges. The rationale was that SNF would be periodically removed from the spent fuel pool and shipped offsite for reprocessing<sup>1</sup> before the pool became full. However, SNF reprocessing never materialized as an option because of the relative abundance of natural uranium and the U.S.'s concern that the use of plutonium from reprocessed civilian SNF could be used for nuclear weapons production (i.e., the non-proliferation issue) (Holt 1998). Because the U.S. has abandoned the concept of reprocessing SNF, the "once through" nuclear fuel cycle has become the *defacto* policy.

In 1977, DOE announced that the Federal Government would accept and take title to the SNF from U.S. utilities. This policy was designed to meet the needs of nuclear reactors for both interim and permanent disposition of SNF (NRC 1979). DOE was mandated by the Nuclear Waste Policy Act of 1982 (NWPA) to begin disposing of commercial SNF at a permanent underground repository by January 31, 1998. To fund the program, utilities were required to pay a fee, proportional to the amount of power (in kilowatt-hours) they generated, into the nuclear waste fund (Holt 1998).

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<sup>1</sup>Reprocessing is a chemical operation in which residual uranium and plutonium in SNF are separated from radioactive wastes (fission products) produced during reactor operation. The residual uranium and plutonium are then purified and reused.

Both the original NWPA and the Nuclear Waste Policy Act of 1987 (NWPAA) recognized that some form of centralized interim storage would be a component of the national program. The original act called for this interim storage facility to be located in any state other than the state in which the permanent geological repository would be located. The NWPAA created the position of Nuclear Waste Negotiator (NWN), who was assigned the task of finding a host site for a monitored retrievable storage facility (MRS). Several Federally Recognized Indian Tribes, including, for example, the Skull Valley Band and other units of government expressed interest in hosting the MRS. However, the NWN and the MRS program expired in 1994 without an MRS host being identified.

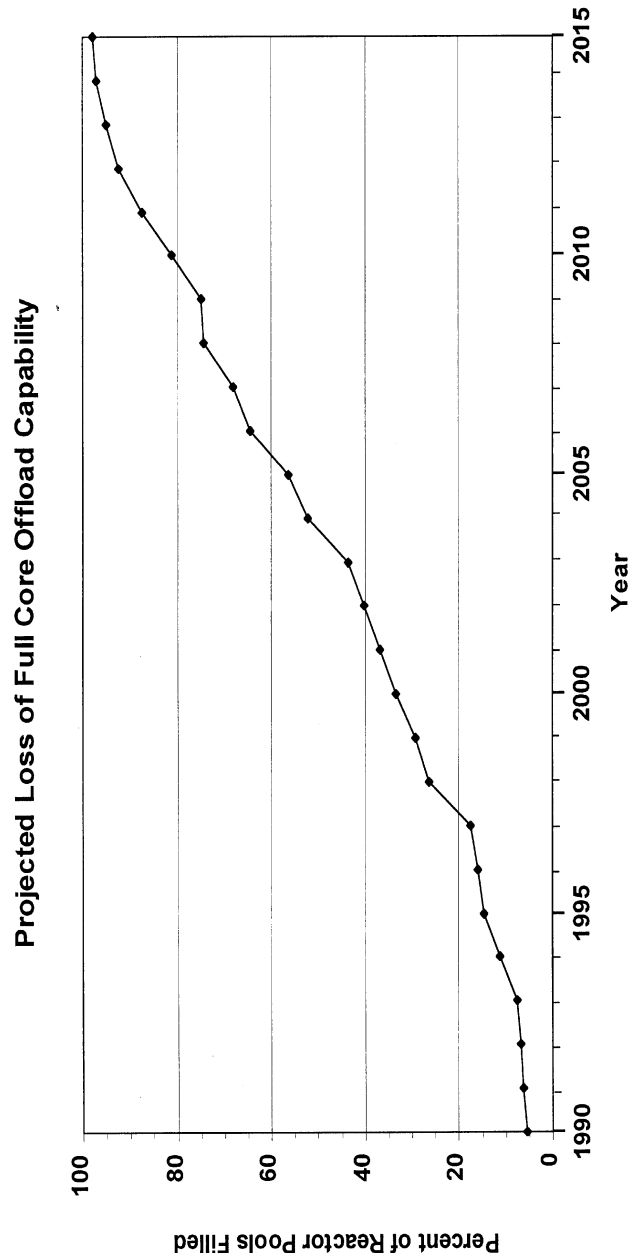
A permanent geological repository is now projected to be completed by DOE and could begin receiving commercial reactor SNF by 2010 (DOE 1999). Before a permanent repository becomes available, however, several nuclear utilities anticipate that their on-site SNF storage capacity may become inadequate. As a result, these utilities see an interim facility as a viable solution to their SNF storage concerns.

To date, utilities have been coping with the SNF storage problem by employing, primarily, two methods to increase on-site SNF storage capacity: (1) expanding the capacity of spent fuel pools to store SNF and (2) constructing ISFSIs at the reactor site (also called “at-reactor” ISFSIs). Spent fuel pool storage capacity may be expanded by replacing the original or existing fuel storage racks with new racks designed for closer spacing of fuel assemblies or adding new racks, thus allowing more fuel assemblies to be stored in the pool. Although many U.S. nuclear power plants, including most of the plants owned by the PFS member utilities, have already expanded the capacity of their spent fuel pools to store SNF, several are still running out of storage space. In fact, many reactor fuel pools are already at capacity, and it is projected that 80 percent of U.S. reactors will lose full core offload capability by 2010 (see Figure 1.4). Full core offload capability refers to a power plant’s capability to remove all fuel from the reactor vessel and store it in the spent fuel pool. Table 1.1 lists the remaining storage capacity for each plant owned by PFS members and the projected date when full core offload capability would be lost.

Regulations have been established by NRC in 10 CFR Part 72 that allow for both at-reactor ISFSIs and off-site ISFSIs (also called “away-from-reactor” ISFSIs). Pursuant to Subtitle B of the NWPA, all nuclear power plants licensed under 10 CFR Part 50 have a general license for at-reactor dry cask storage at an on-site ISFSI. A utility exercising its general license may select a storage cask system approved by NRC and listed in 10 CFR Part 72, Subpart K. A utility must maintain its Part 50 license in order to maintain its general license for dry cask storage.

Utilities may also apply for a site-specific ISFSI license. An application for a site-specific license must specify the storage cask(s) that the utility plans to use. A site-specific license can be for at-reactor or away-from reactor storage. Utilities storing spent fuel under site-specific licenses need not maintain Part 50 licenses to do so.

As of January 2000, there were 15 ISFSIs operating in the U.S. (see Figure 1.5), and approximately 15 to 20 additional ISFSIs are proposed for the near term. Of the 15 ISFSIs, one (Prairie Island) is owned by a PFS member. All operating ISFSIs in Figure 1.5 are located at licensed reactor sites except GE-Morris and the DOE facilities at Fort St. Vrain and Idaho National Engineering and Environmental Laboratory.



**Figure 1.4. Projected loss of full core offload capability for U.S. commercial nuclear reactors.** Sources: Energy Resources International and DOE/RW-0431, Rev. 1.



Table 1.1. Site-specific reactor information for PFS member utilities

Utility	Reactor <sup>a</sup>	Remaining storage capacity (no. spaces)	Projected date of loss of full-core offload capability
Consolidated Edison Company of New York	Indian Point Unit 1	Shutdown; fuel onsite	N/A (shutdown)
	Indian Point Unit 2	457	2005
Southern California Edison Co.	San Onofre Unit 1	Shutdown; fuel onsite <sup>b</sup>	N/A (shutdown)
	San Onofre Unit 2	672	2006
	San Onofre Unit 3	624	2006
Genoa FuelTech, Inc.	La Crosse Boiling Water Reactor	Shutdown; fuel onsite	N/A (shutdown)
Indiana-Michigan Company (American Electric Power)	D.C. Cook Units 1 and 2	1598 (shared)	2010 (both units)
Illinois Power Company	Clinton	1381	2005
GPU Nuclear Corporation	Oyster Creek	180	1996 <sup>c</sup>
	Three-Mile Island	583	2009
Northern States Power Company	Monticello	1115	2006
	Prairie Island Units 1 and 2	125 (shared)	2007 (both units)
Southern Nuclear Operating Co.	Farley Unit 1	527	2006
	Farley Unit 2	641	2010
	Hatch Units 1 and 2	1062 (shared)	2000 (both units)
	Vogtle Units 1 and 2	2392 (shared)	2015 (both units)

<sup>a</sup>See Figure 1.3 for reactor locations.

<sup>b</sup>Pool is full; additional Unit 1 assemblies are being stored on an interim basis in Units 2 and 3 pools and in space leased at the General Electric Morris Facility through 2002.

<sup>c</sup>Full-core offload capability was lost in 1996.

Source: Private Fuel Storage, L.L.C.; Storage capacity data are current as of November 1998; full-core offload capability estimates were developed in May 1998.

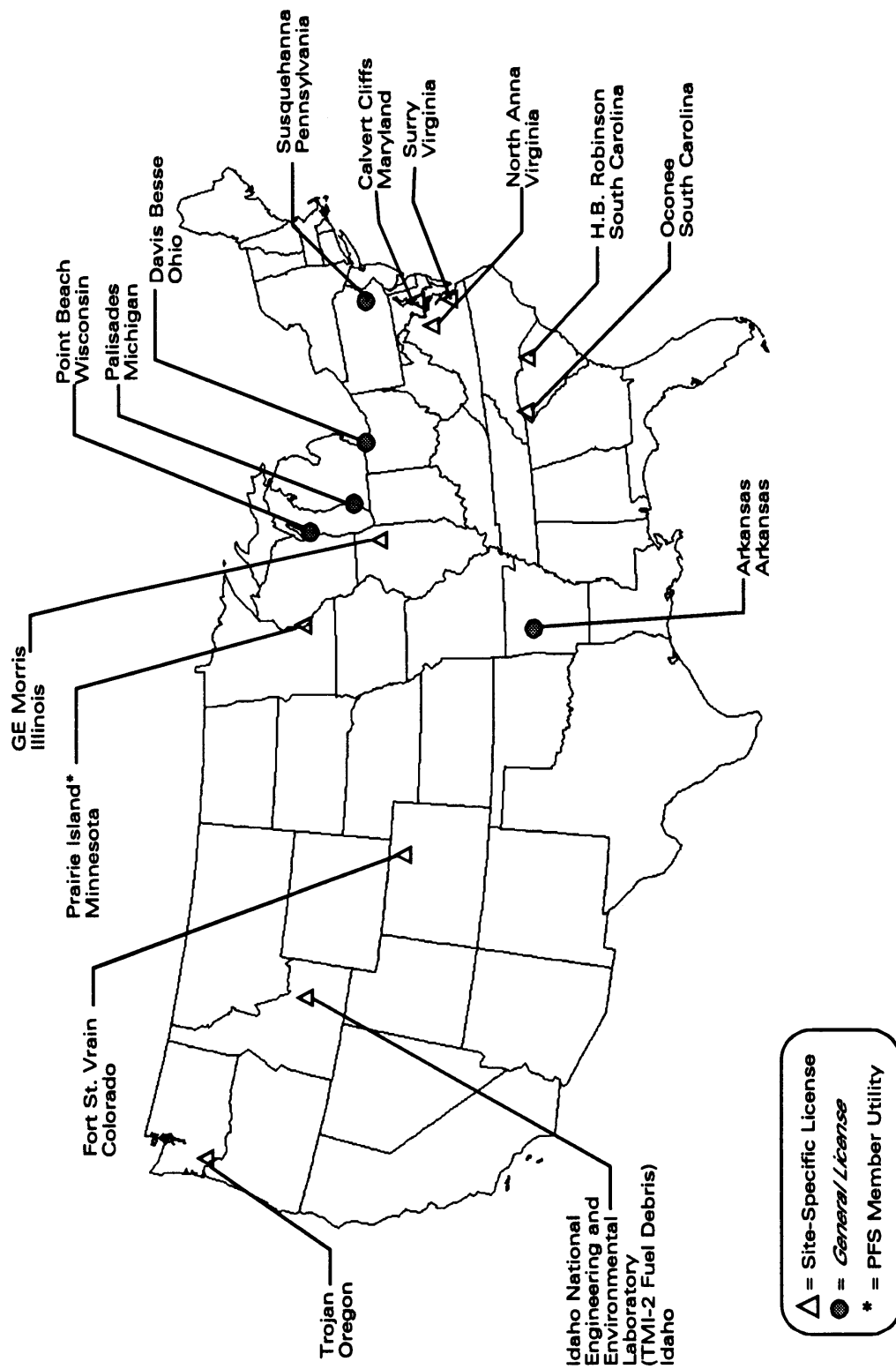


Figure 1.5. Operating spent fuel storage sites (i.e., ISFSIs) as of April 2000.

While many utilities are building at-reactor ISFSIs, PFS has identified three primary reasons why an away-from-reactor ISFSI is needed. First, PFS indicated that some reactor sites have physical limitations that would prevent building or expanding an at-reactor ISFSI. For these reactors, an away-from-reactor ISFSI would provide an SNF storage option. Absent such an option, these reactors would have to shut down once they reach their SNF storage capacities, which could occur prior to the end of their current operating licenses. Second, an away-from-reactor ISFSI would afford utilities with reactors that are already shut down the ability to fully decommission their sites sooner. An away-from-reactor ISFSI would provide an off-site facility for the storage of SNF, thereby reducing the amount of time a utility would need to maintain a shut down reactor site. Until all SNF has been removed, the site cannot be fully decommissioned, and a utility would continue to incur the cost of maintaining the reactor site. Third, PFS has indicated that a centralized away-from-reactor interim storage facility would reduce the cost of SNF storage.

## 1.4 Scoping Process

The scoping process was initiated on May 1, 1998, with the publication of a Notice of Intent (NOI) to prepare an EIS and conduct the scoping process (63 Fed. Reg. 24197). As described in the NOI, the objectives of the scoping process were to

- define the scope of the proposed action that is to be the subject of the EIS;
- determine the scope of the EIS and identify significant issues to be analyzed in depth;
- identify and eliminate from detailed study issues that are peripheral or are not significant;
- identify any environmental assessments and other EISs that are being or will be prepared that are related to but not part of the scope of the EIS under consideration;
- identify other environmental review and consultation requirements related to the proposed action;
- indicate the relationship between the timing of the environmental analyses and the Commission's tentative planning and decision-making schedule;
- identify any cooperating agencies and, as appropriate, allocate assignments for preparation and schedules for completion of the EIS to the NRC and any cooperating agencies; and
- describe the means by which the EIS will be prepared, including any contractor assistance to be used.

A scoping meeting was held in Salt Lake City, Utah, on June 2, 1998. Thirty-five people offered comments at the meeting, including the Governor of Utah (via videotape), a member of the U.S. Congress, representatives from Federal and State of Utah agencies, and Federally Recognized Indian Tribes. During the scoping meeting, PFS presented a briefing on the proposed action and the NRC staff summarized the environmental review process and the proposed scope of the EIS. Comments and suggestions from the audience were received and are summarized in the scoping report (NRC 1998) (see Appendix A). During the remainder of the public comment period, NRC received 30 comment letters, which are also summarized in the scoping report.

Two additional scoping meetings were held on April 29, 1999, to address the PFS proposal to construct a new rail line down the western side of Skull Valley and the required plan amendment to the Pony Express Resource Management Plan (RMP), and to address any environmental concerns associated with the lease agreement that might not have been discussed at the previous scoping meeting. The notice for these meetings was published in the Federal Register on April 14, 1999,

(64 Fed. Reg. 18451). One meeting was held in Salt Lake City and the other in Tooele, Utah. After presentations were made by BIA, BLM, and the NRC, oral comments were provided by representatives of a member of the U.S. Congress, Utah State departments or agencies, a Federally Recognized Indian Tribe, private organizations, and interested members of the public. Written comments were also received (see Appendix A).

The comments provided by the State of Utah and other interested members of the public, which represent the major points of view on the proposed action, identified a number of environmental concerns. These concerns were summarized in the original scoping report and the supplemental scoping report and were considered in determining the scope of this DEIS (see Appendix A).

On the basis of the scoping process and the requirements of NEPA and 10 CFR Part 51, the cooperating agencies determined that this DEIS would address the potential environmental impacts of constructing and operating the proposed PFSF and related transportation facilities for the following issues:

- **Radiological impacts and human health and safety.** The potential public health consequences of the proposed action are evaluated with emphasis on radiological exposure risk during normal operations, including transport of the SNF (including handling, transfer, and inspection activities) and under credible accident scenarios. Nonradiological events and activities with potential human health impacts are also identified and evaluated.
- **Cumulative impacts.** The DEIS analyzes the potential cumulative impacts, if any, of the proposed PFSF in the context of other existing and proposed facilities and activities in the area of the proposed project area, which includes the site, the rail line, and the intermodal transfer facility (ITF), as appropriate.
- **Socioeconomics.** The socioeconomic issues that fall within the scope of the DEIS include the direct and indirect economic effects (both beneficial and adverse) on employment, taxes, residential and commercial development, agriculture, and public services in the area. The effects of the proposed action on land use in the area, including use of public lands, tribal trust lands, and rights-of-way, are assessed in the DEIS. The DEIS also includes an evaluation of the extent to which lands and land use may be disturbed or altered during construction and operation of all portions of the proposed action. In addition, recreational and tourism sites, wilderness areas, and aesthetic values of the area are analyzed.
- **Cultural resources and environmental justice.** The DEIS assesses potential impacts of the proposed action on the historic and archaeological resources of the area and on the cultural traditions and lifestyle of Native Americans. An environmental justice review is included in the DEIS. The DEIS also discusses the status of the consultation on historic properties required by the National Historic Preservation Act of 1966, as amended.
- **Geology and seismicity.** The DEIS describes the geologic and seismic characteristics of the proposed site and evaluates the impacts of construction and operation of the proposed action on the site's geology and soils. Evaluation of the potential for earthquakes, ground motion, soil stability concerns, surface rupturing, and any other major geologic or seismic considerations that would affect the suitability of the proposed site as a storage location for SNF are addressed in the NRC's Safety Evaluation Report (SER) (see Section 1.5.1) rather than the DEIS; the SER also addresses cask design, particularly in the context of potential seismic events. The SER is currently being developed by the NRC staff, and a summary of the NRC's evaluation findings will be provided in the Final EIS.

- **Transportation.** The analysis of potential impacts resulting from the transportation of SNF considers relevant aspects of both rail and truck transport to the proposed PFSF. The DEIS discusses the number, type, and frequency of shipments, as well as routing considerations and the quantities of SNF being shipped. The impacts of transportation are evaluated primarily in terms of radiological exposure risk during normal transportation (including handling, transfer, and inspection) and under credible accident scenarios. The non-radiological impacts of transportation are also identified and evaluated. Construction and maintenance activities required for rail or road systems are assessed, including input from BIA and BLM.
- **Accidents.** NRC safety regulations and guidance specify that the facility be designed to withstand various credible accidents, including natural events, without having a significant radiological release. The SER includes an evaluation and determination on (1) the adequacy of the design to withstand credible accidents, (2) the potential for a radiological release to occur as a result of any such accident, and (3) the significance of any such radiological release. The DEIS analyzes the potential environmental impacts resulting from credible accidents at the proposed facility.
- **Compliance with applicable regulations.** The DEIS presents a partial listing of the relevant permits and regulations that are believed to apply to the proposed facility. Regulatory or legal issues covered in the DEIS include water rights, land use restrictions such as rights-of-way, and oil, gas, or mineral leases that would interfere with the availability or suitability of the proposed site.
- **Air quality.** Potential air quality impacts of the proposed project are evaluated in the DEIS. The evaluation includes potential impacts resulting from construction activities and operation and compares the anticipated air quality impacts, if any, with relevant standards. Appropriate modeling is performed to assist in the analysis of potential air quality impacts.
- **Hydrology.** The DEIS assesses the potential impacts of the proposed project on surface water and groundwater resources. The assessment considers water resources, water quality, water use, floodplains, and the probable maximum flood (PMF), which is evaluated in the NRC SER.
- **Ecological resources.** The DEIS assesses the potential environmental impacts of the proposed action on ecological resources, including plant and animal species and threatened or endangered species or critical habitat that may occur in the area. As appropriate, the assessment includes potential effects on wildlife migration patterns, and mitigation measures to address adverse impacts are analyzed. The DEIS also discusses the status of any consultation required by the Endangered Species Act of 1973, as amended.
- **Need for the facility.** A discussion of the need for the proposed facility and the expected benefits is presented in the DEIS and includes an estimate of the amounts of SNF generated by participating nuclear power plants and the utilities' capabilities to store that fuel.
- **Decommissioning.** The DEIS includes a general discussion of the impacts associated with decommissioning of the proposed PFSF and related transportation facilities.
- **Alternatives.** The no-action alternative and other reasonable alternatives to the proposed action, such as alternative sites or alternative storage methods, are described and assessed in the DEIS.

In addition to the above items, issues identified by BLM for the proposed rail access corridor include fire, range land health, livestock management, noxious weeds, wildlife, wild horses, wetlands, historic trails, and access.

## 1.5 Cooperating Agencies

For the proposed PFSF in Skull Valley to operate, the NRC, BIA, BLM, and STB must all approve certain aspects of the proposed action. Because each agency must take an action and because those actions are interrelated, the NRC, BIA, BLM, and STB have agreed to cooperate in the preparation of a single DEIS.

The NRC is the lead agency in the preparation of this DEIS. The preparation of a single EIS results in more efficient use of Federal resources. Each agency's action is described in the following paragraphs.

### 1.5.1 NRC Federal Action

On June 20, 1997, PFS applied to the NRC for a license to receive, transfer, and possess SNF and operate an ISFSI in the northwest corner of the Reservation. The initial period of the license would be for 20 years, with the option of renewal. The NRC's decision-making process includes an environmental review (i.e., this DEIS) and safety review (see the discussion in the dialogue box) of the construction and operation of the proposed PFSF at the proposed site. Upon completion of both reviews, the NRC will decide whether to grant, with or without conditions, or deny the PFS request. Pursuant to 10 CFR 51.102(c), when a hearing is held on a proposed action, the initial decision of the presiding officer or the final decision of the Commissioners acting as a collegial body will constitute the record of decision.

The NRC safety regulations for an ISFSI are delineated in 10 CFR Part 72. Compliance with these regulations will provide reasonable assurance that the design and operation of an ISFSI will provide adequate protection of the public health and safety. NRC's regulations for NEPA compliance are set forth in 10 CFR Part 51. Consistent with NEPA, NRC regulations require that an EIS be completed for major Federal actions significantly affecting the quality of the human environment, such as licensing an away-from-reactor ISFSI.

#### BACKGROUND INFORMATION ON NRC's SAFETY REVIEW PROCESS

The NRC safety review of an ISFSI includes the preparation of a detailed report called a Safety Evaluation Report (SER). The SER is based, in part, upon the Safety Analysis Report submitted by the applicant. The SER also includes the NRC's review of technical issues such as the adequacy of the facility design to withstand external events (i.e., earthquakes, floods, and tornadoes); radiological safety of facility operation, including doses from normal operations and accidents; emergency response plans; physical security of the facility; fire protection; maintenance and operating procedures; and decommissioning (note: the SER is made available to the public).

In addition to an SER for the ISFSI, NRC regulations require that an ISFSI use only storage and transportation cask designs that are certified pursuant to 10 CFR Parts 72 and 71, respectively. For a cask design to be certified, the NRC must first complete a detailed review against the requirements of either 10 CFR Part 72 (for storage casks) or 10 CFR Part 71 (for transportation casks), or both for a dual-purpose shipping/storage cask. An SER would be completed for each cask and would describe the NRC's review of the adequacy of the cask design for technical issues such as the cask's ability to withstand external events (such as fires) and radiological impacts from normal use and accidents.

### 1.5.2 BIA Federal Action

A conditional lease between PFS and the Skull Valley Band was executed on May 23, 1997. PFS and the Skull Valley Band propose to enter into a lease for the site for 25 years, with an irrevocable option for an additional 25 years. The proposed lease would allow for the use of approximately 330 ha (820 acres) of land in the northwest corner of the Reservation for the proposed PFSF and 82 ha (202 acres) of land for a utility and road access corridor, which includes rights-of-way for water pipelines, across tribal trust land, as well as for a buffer zone around the proposed PFSF. Only land uses currently existing on the buffer zone would be permitted unless consent is given by both parties. The Skull Valley Band cannot, under 25 USC Sections 177 and 415, convey an interest in Reservation land held in trust without approval of the United States. Therefore, BIA must review and either approve or disapprove the lease.

A determination to approve or disapprove the lease is made on a two-tiered decision process. The first tier is to determine whether the lease meets regulatory requirements for lease of tribal trust lands set forth in 25 CFR Part 162. The second tier of the decision process is documentation of NEPA compliance. After completing its regulatory review, including this DEIS, BIA will issue a Record of Decision (ROD). The lease is not final until the Final EIS is completed, commitments to mitigation measures identified in the BIA ROD are made, and the NRC issues a license to PFS.

Because of BIA's unique role in approving or disapproving the proposed lease, the purpose and need for its action differ from those of the NRC. The purpose of BIA's action is to promote the economic development objectives of the Skull Valley Band. The need for BIA's action is its government-to-government relationship with, and trust responsibility (including consideration of environmental impacts) to the Skull Valley Band. This difference has ramifications for the scope of BIA's NEPA review and the range of the BIA's reasonable alternatives. As part of its government-to-government relationship with the Skull Valley Band, BIA's NEPA review is limited to the scope of the proposed lease negotiated between the parties, not evaluation of actions outside the lease (e.g., ultimate disposition of the SNF). Similarly, the range of BIA's reasonable alternatives is limited to those that will serve the Skull Valley Band's economic development, consistent with the BIA's trust responsibility [i.e., the approval of the proposed PFSF site location(s) on the Reservation, and no action—disapproval of the lease]. PFS has identified an alternative site location on the Reservation (see Section 2.2.3). If BIA identifies this alternative site as the preferred alternative, it would require the Skull Valley Band and PFS to amend the proposed lease.

### 1.5.3 BLM Federal Action

By letter dated August 28, 1998, PFS applied for separate rights-of-way to provide transportation routes from the Interstate 80 corridor to the proposed PFSF site on the Reservation. The preferred route is a rail line from Skunk Ridge along the base of the Cedar Mountains on the western side of Skull Valley, then east to the proposed site (Figure 1.2). The alternative transportation mode is an ITF located 2.9 km (1.8 miles) west of the intersection of I-80 and Skull Valley Road (see Section 2.2.4.2). At the ITF, SNF would be transferred from railcars to heavy-haul vehicles and transported to the proposed PFSF via Skull Valley Road.

The location of either the rail corridor or the ITF would occupy public land that is included within the BLM Pony Express RMP. The decisions in the current RMP do not provide for a major right-of-way corridor, such as a rail line, along the west side of Skull Valley. The PFS proposal would, therefore,

require an amendment to the RMP, *Transportation and Utility Corridor Decision 1*, prior to BLM granting the rail line right-of-way. The amendment would add an exception to the RMP decision to allow the construction and use of the proposed rail line outside the established corridors. This DEIS will serve as the NEPA document for BLM's determinations with respect to both the right-of-way and the proposed plan amendment.

The following planning criteria have been established by BLM to guide the development of the amendment to the Pony Express RMP:

- The Plan will address only BLM lands administered by the Salt Lake Field Office and will not address private lands or lands administered by other government agencies.
- Coordination and cooperation across interagency administrative boundaries will take place in both planning and implementation.
- The public will have an opportunity to provide information and recommendations on the proposal and to review and comment on the proposed action before a final management decision.
- Social and economic impacts to local communities resulting from public land management will be considered.

BLM's action is to issue a right-of-way grant under 43 CFR Part 2800 for the rail line or for the ITF, or deny both applications. If the rail line alternative is selected, BLM will first amend the Pony Express RMP in accordance with 43 CFR Part 1600, and then issue the right-of-way grant. BLM's review of the proposal will consider both technical and environmental issues. After completing its review, BLM will issue a ROD. The BLM also requires that certain "Critical Elements" be considered in this DEIS. Table 1.2 identifies these critical elements; those that have been found to have no effect are not further discussed in this DEIS and the rationale for the disposition of those elements is provided in Table 1.2

#### 1.5.4 STB Federal Action

The STB has regulatory authority over the construction and operation of new rail lines in the United States. The STB would have to grant a license for the construction and operation of PFS's proposed rail line from Skunk Ridge. On January 5, 2000, PFS filed an application with STB for the proposed rail line construction and operation (Finance Docket 33824, *Great Salt Lake and Southern Railroad, L.L.C.—Construction and Operation in Tooele County, Utah*). STB will review both the merits of the proposal and the potential environmental impacts. STB will prepare a ROD providing the basis for its decision to either grant or deny the PFS application with appropriate conditions, including environmental conditions.

#### 1.5.5 Required Agency Consultation

As Federal agencies, the NRC, BIA, BLM, and STB are required to comply with the Endangered Species Act of 1973, as amended, and the National Historic Preservation Act of 1966 (NHPA), as amended. The agencies have initiated consultation with the U.S. Fish and Wildlife Service (FWS) to comply with the requirements of Section 7 of the Endangered Species Act of 1973 (see Appendix B). On June 14, 1999, the cooperating agencies sent a letter to the FWS's Utah Field Office describing the proposed action and requesting a list of threatened and endangered species and critical habitats that could potentially be affected by the proposed action. By letter dated June 22, 1999, the FWS's



Table 1.2. Critical elements identified by BLM and considered in this DEIS

Indirect/direct cumulative effect	No effect	Value	Rationale for BLM's determination of "no effect"
X		Air quality	
X		Threatened and endangered species	
X		Flood plains	
	X	Prime/unique farmland	There are no prime/unique farmlands present in this area.
X		Cultural/historical resources	
	X	Paleontological	No surveys have been performed in this area, and the authorized BLM officer is not aware of any paleontological resources that would be affected by the proposed action.
X		Wilderness	
X		Water resources	
	X	Areas of critical environmental concern (ACEC)	There are no ACECs in western Skull Valley.
	X	Wild & scenic rivers	There are no rivers or creeks in the Cedar Mountains suitable for wild and scenic designation.
X		Native American concerns	
X		Wastes, hazardous/ solid	
X		Environmental justice	
	X	Riparian	There are no riparian areas that would be crossed by the proposed rail corridor. Travel along the existing Skull Valley highway would not directly affect riparian areas
X		Noxious weeds	

Utah Field Office provided a list of threatened, endangered, or conservation agreement species. Any additional consultation with the FWS will be completed prior to issuance of the Final EIS to ensure that the continued existence of any threatened or endangered species potentially affected by this project would not be jeopardized.

The cooperating agencies have initiated the Section 106 consultation process required by the National Historic Preservation Act (see Appendix B). By letter dated May 18, 1999, the NRC, in association with the cooperating agencies, has also initiated the Section 106 process with the Utah State Historic Preservation Office (SHPO). This letter described the potentially affected area and requested the views of the SHPO on further actions to identify historic properties that may be affected. The Utah SHPO responded by letter dated June 24, 1999. The Utah SHPO identified three

additional actions it thought the cooperating agencies should take in their effort to identify historic properties that may be affected by the proposed action (see Appendix B).

In response to the Utah SHPO letter, BLM contacted local Federally Recognized Indian Tribes and other interested organizations, by letters dated July 1, 1999, and December 2, 1999, soliciting their interest in being consulting parties in the Section 106 process for the proposed rail line. Two organizations (the Confederated Tribes of Goshute Reservation and the Oregon-California Trail Association) informed BLM that they would like to participate in the consultation process. One organization, the National Rail Association, indicated that they did not want to participate. The National Park Service contacted BLM indicating that it would like to participate in the Section 106 consultation process. By letters dated April 26, 2000, the NRC, in association with BIA and STB, issued follow-on letters that again solicited participation in the Section 106 consultation process. Details of this consultation are presented in Appendix B.

Subsequent to the cooperating agencies letter of May 18, 1999, revised regulations, as issued by the Advisory Council on Historic Preservation, became effective. As a result, NRC and the cooperating agencies recommended in a letter dated November 9, 1999, that the new regulations be implemented for this Section 106 consultation. In a letter dated November 23, 1999, the Utah SHPO agreed to proceed with the consultation pursuant to the revised regulations.

## 1.6 Federal, Tribal and State Authorities, Regulations, and Permits

This section describes the applicable Federal, Tribal, and State regulations governing the construction and operation of the proposed PFSF and transportation facilities with which PFS must comply. Section 1.6.1 identifies the applicable statutes and regulations that require compliance, while Section 1.6.2 identifies the required permits and provides the status of PFS's applications to obtain these permits. This information was obtained from the PFS's Environmental Report (PFS/ER 2000) and other sources (e.g., PFS/RAI2 1999a).

### 1.6.1 Statutes and Regulations

#### 1.6.1.1 Federal Laws and Regulations

The proposed PFSF is subject to a number of Federal environmental laws, regulations, and other regulatory requirements. The following list identifies generally applicable laws and regulatory requirements, but it should not be construed as a comprehensive listing because of the early stage of project planning.

- the Atomic Energy Act of 1954 as amended (42 USC 2011 *et seq.*), which gives NRC specific authority to regulate the possession, transfer, storage, and disposal of byproduct and special nuclear materials, as well as aspects of transportation packaging design requirements for these materials, including testing for packaging certification. Commission regulations applicable to the transportation of these materials (10 CFR Parts 71 and 73) require that shipping casks meet specified performance criteria under both normal transport and hypothetical accident conditions.
- NEPA (42 USC 4321 *et seq.*).

- CEQ's general regulations implementing NEPA (40 CFR Parts 1500–1508). 1
- NRC's regulations implementing NEPA (10 CFR Part 51). 2
- the Resource Conservation and Recovery Act, as amended (RCRA; 42 USC 6901 *et seq.*), 3  
which governs treatment, storage, and disposal of solid waste. 4
- the Clean Air Act (CAA), as amended (CAA; 42 USC 7401 *et seq.*). The CAA requires 5  
(1) Federal agencies to comply with "all Federal, State, interstate, and local requirements" 6  
related to the control and abatement of air pollution; (2) the Environmental Protection Agency 7  
(EPA) to establish National Ambient Air Quality Standards (NAAQS); and (3) establishment of 8  
national standards of performance for new or modified stationary sources of atmospheric 9  
pollutants. It further regulates emission of hazardous air pollutants, including radionuclides, 10  
through the National Emission Standards for Hazardous Air Pollutants Program 11  
(40 CFR Parts 61 and 63). 12
- the Clean Water Act (CWA) of 1977 (CWA; 33 USC 1251 *et seq.*), which generally requires 13  
(Section 113) all Federal departments and agencies to comply with Federal, State, interstate, 14  
and local requirements regarding discharge of pollutants to surface water bodies. 15  
Section 402(p) of the CWA (which was added to the CWA by the Water Quality Act of 1987) 16  
requires EPA to establish regulations for the Agency or individual States to issue permits for 17  
stormwater discharges associated with industrial activity, which includes construction activities 18  
that could disturb five or more acres. 19
- the Endangered Species Act (ESA), as amended (16 USC 1531 *et seq.*), which protects 20  
threatened and endangered species and their habitats from major adverse impacts. The ESA 21  
further requires consultation regarding these species with the U.S. Fish and Wildlife Service. 22
- Executive Order 11512, *National Environmental Policy Act, Protection and Enhancement of 23  
Environmental Quality*. The Order directs Federal executive agencies to monitor and control 24  
their activities continually to protect and enhance the quality of the environment, and it requires 25  
the development of procedures both to ensure the fullest practicable provision of timely public 26  
information and understanding of Federal plans and programs with potential environmental 27  
impacts, and to obtain the views of interested parties. 28
- Executive Order 11593, *National Historic Preservation*, directs Federal executive agencies to 29  
locate, inventory, and nominate properties under their jurisdiction or control to the *National 30  
Register of Historic Places*. 31
- Executive Order 11988, *Floodplain Management*, directs Federal executive agencies to 32  
establish procedures to ensure that any Federal action undertaken in a floodplain considers the 33  
potential effects of flood hazards and floodplain management and avoids floodplain impacts to 34  
the extent practicable. 35
- Executive Order 11990—*Protection of Wetlands*; Federal executive agencies are directed to 36  
avoid to the extent possible the long and short term adverse impacts associated with the 37  
destruction or modification of wetlands and to avoid direct or indirect support of new 38  
construction in wetlands wherever there is a practicable alternative. 39
- Executive Order 12088, *Federal Compliance with Pollution Control Standards*. The Order 40  
generally directs Federal executive agencies to comply with applicable administrative and 41  
procedural pollution control standards established in major Federal environmental legislation, 42  
such as the CAA, CWA, and Safe Drinking Water Act (SDWA). 43
- Executive Order 12898, *Environmental Justice*, which directs Federal executive agencies, to 44  
the extent practicable, to make the achievement of environmental justice part of their mission 45  
by identifying and addressing disproportionately high and adverse human health or 46  
environmental effects of their programs, policies, and activities on minority and low-income 47  
populations in the United States, including Federally Recognized Indian Tribes. 48

- Executive Order 13007, *Indian Sacred Sites*, which directs Federal executive agencies to avoid adverse effects to sacred sites and to provide access to those sites to Native Americans for religious practices.
- Executive Order 13094, *Consultation and Coordination with Indian Tribal Governments*. The Order directs Federal executive agencies to establish regular and meaningful consultation and collaboration with Tribal governments in the development of regulatory practices on Federal matters that significantly or uniquely affect their communities.
- Executive Order 13112—*Invasive Species*; Federal executive agencies, to the extent practicable and permitted by law, are required to, among other things, prevent the introduction of invasive species, detect and respond rapidly to and control populations of such species, and develop technologies to prevent introduction and to provide for environmentally sound control of invasive species.
- the Federal Land Policy and Management Act of 1976 (43 USC 1701 *et seq.*), which governs the use of Federal lands administered by BLM. Title II and its implementing regulations in 43 CFR Part 1600 governs land use planning. Title V and its implementing regulations in 43 CFR Part 2800 governs rights-of-way that cross public land administered by the BLM.
- the National Historic Preservation Act (16 USC 470 *et seq.*) and related historic preservation laws [e.g., the Antiquities Act (16 USC 431 *et seq.*)] provide for the protection and preservation of cultural and historic resources.
- the American Indian Religious Freedom Act (42 USC 1996 *et seq.*)
- the Archaeological Resources Protection Act, as amended (16 USC 470aa *et seq.*) would apply if there were any excavation or removal of archaeological resources from publicly held or Native American lands.
- provisions of the Native American Graves Protection and Repatriation Act of 1990 (25 USC 3001) would apply if there were any discoveries of Native American graves or grave artifacts.
- the Noise Control Act of 1972, as amended (42 USC 4901 *et seq.*) would apply to any noise-generating activities carried out during the construction, operation, or closure of the proposed facility.
- the Occupational Safety and Health Act and its implementing regulations.
- NRC's regulations in 10 CFR Part 20, *Standards for Protection Against Radiation*, and in 10 CFR Part 72, *Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste*.
- the Pollution Prevention Act of 1990 (42 USC 13101 *et seq.*), which establishes a national policy for waste management and pollution control that focuses first on source reduction, and then on environmentally safe recycling, treatment, and disposal.
- the requirements for the Secretary of the Interior or a delegated representative to approve business leases with Federally Recognized Indian Tribes (25 U.S.C. § 415 and implementing regulations in 25 CFR Part 162).
- the Safe Drinking Water Act (enforcement of drinking water standards has been delegated by EPA to the States; regulations are found at 40 CFR Parts 123, 141, 145, 147, and 149).

Cross-country and local transportation of SNF to the proposed PFSF site would require compliance with the NRC's regulations in 10 CFR Part 71, *Packaging and Transportation of Radioactive Material*. The regulations in 10 CFR Part 73, *Physical Protection of Plants and Materials* govern safeguards and physical security during the transit of shipment of SNF. The transportation aspects of the proposed project would also require compliance with applicable Department of Transportation (DOT) regulations, such as those found in 49 CFR and its subchapters as listed below:

- Chapter I, Subchapter A: *Hazardous Materials Transportation, Oil Transportation, and Pipeline Safety*; Part 107, *Hazardous Materials Program Procedures*;
- Subchapter C: *Hazardous Materials Regulations*; Part 171, *General Information, Regulations, and Definitions*; Part 172, *Hazardous Materials Table, Special Provisions, Hazardous Materials Communications, Emergency Response Information, and Training Requirements*; Part 173, *Shippers—General Requirements for Shipments and Packagings*, Subpart I, *Radioactive Materials*;
- Part 174, *Carriage by Rail*;
- Part 177, *Carriage by Public Highway*.

Also, the action would be required to comply with the DOT Federal Highway Administration regulations in 49 CFR Chapter III, Subchapter B: *Federal Motor Carrier Safety Regulations*; including:

- Part 390, *Federal Motor Carrier Safety Regulations, General*;
- Part 391, *Qualifications of Drivers*;
- Part 392, *Driving of Commercial Motor Vehicles*;
- Part 393, *Parts and Accessories Necessary for Safe Operation*;
- Part 395, *Hours of Service of Drivers*;
- Part 396, *Inspection, Repair, and Maintenance*; and
- Part 397, *Transportation of Hazardous Materials; Driving and Parking Rules*.

#### 1.6.1.2 Skull Valley Band of Goshute Indians Tribal Statutes and Regulations

Activities that would occur on the Reservation would be required to comply with Tribal laws, regulations, and ordinances, including those Federal laws [e.g., CWA, Safe Drinking Water Act, and CAA] which allow a Tribe to be treated as a sovereign government or subfederal government.

#### 1.6.1.3 State of Utah Statutes and Regulations

Those activities that would take place outside the Reservation (e.g., along the transportation corridor) would be required to comply with applicable Utah statutes and regulations in the Utah Administrative Code under Environmental Quality (Sections R307 to R317).

### 1.6.2 Required Permits and Approvals

Many of the Federal, Tribal, and State statutes and regulations identified in Section 1.6.1 require permits or approvals to demonstrate compliance. PFS has identified a number of permits and approvals that need to be developed and approved for the proposed action. The sections below list the permits and approvals that have been identified by PFS and the status of PFS's applications to obtain them.

#### 1.6.2.1 Federal Permits and Approvals

U.S. Nuclear Regulatory Commission: A license is required from the NRC. For a more detailed discussion see Section 1.5.1.

- U.S. Department of Interior, Bureau of Indian Affairs: BIA approval of the lease between PFS and the Skull Valley Band is needed. For a more detailed discussion see Section 1.5.2.
- U.S. Department of Interior, Bureau of Land Management: A right-of-way approval for either a new rail line or an ITF is needed. For a more detailed discussion see Section 1.5.3.
- U.S. Surface Transportation Board: The STB would have to approve construction and operation of the new rail line and associated sidings. For a more detailed discussion, see Section 1.5.4.
- U.S. Environmental Protection Agency: (1) National Pollutant Discharge Elimination System (NPDES)—Storm Water General Permit associated with construction activities (includes a requirement for a comprehensive Storm Water Pollution Prevention Plan). With respect to all construction activity on the Reservation, a NPDES General Permit is available from EPA Region VIII to cover construction projects disturbing 2 ha (5 acres) or more on all tribal trust lands in Utah. PFS is currently preparing the General Permit application form, and supporting documentation has been secured from EPA Region VIII. A draft of the Pollution Prevention Plan has been prepared. (2) SDWA—All necessary registrations needed to ensure compliance with the Act and its enabling regulations regarding the use of drinking water wells onsite would be secured from EPA Region VIII. (3) Registration of Septic Tank/Leach Fields—Because the two proposed PFSF septic tank/leach field systems would qualify as Class V injection wells, an Underground Injection Control inventory form would be filed with EPA before the systems are placed in service. (4) RCRA—EPA has RCRA authority over activities on the Reservation. The proposed PFSF is not expected to generate large quantities of hazardous wastes (as regulated under RCRA); therefore, the PFSF would likely be classified as a Conditionally Exempt Small Quantity Generator (CESQG). PFS would have to file a “Notification of Regulated Waste Activity” with EPA to seek such status prior to initiating operation. (5) Spill Control—The above-ground diesel fuel tanks for the proposed PFSF will require the development of a Spill Prevention, Control, and Countermeasures (SPCC) Plan. PFS will complete such a plan in accordance with 40 CFR Part 112.
- U.S. Department of Interior, Fish and Wildlife Service: No specific permit or approval is needed from the FWS. However, a required consultation process has been initiated between the cooperating agencies and the FWS (see Section 1.5.5).
- U.S. Department of Defense, Army Corps of Engineers (ACE): Either a site-specific or general CWA Section 404 permit would be filed for the Skunk Ridge rail line. The permit would be needed because the rail line would use bridges and culverts to cross arroyos and ephemeral streams. PFS intends to file a Joint Application to the Utah State Engineer and the ACE for a Stream Alteration Permit to satisfy the CWA section 401 water quality certification, and for a 404 permit to satisfy the CWA Section 404 permitting statutes.
- Utah Department of Environmental Quality: PFS is not expected to generate large quantities of hazardous wastes (as regulated under RCRA). Accordingly, PFS would likely be classified as a Conditionally Exempt Small Quantity Generator (CESQG). To document the proper management and disposal of these wastes, PFS anticipates filing for a RCRA ID number to seek the CESQG classification. The Utah DEQ is responsible for issuing RCRA ID numbers. ERPA Form 8700-12 must be filed with the application for the RCRA ID number. The form has been completed and PFS expects to file the application shortly.

**1.6.2.2 Skull Valley Band of Goshute Indians Tribal Permits and Approvals**

No specific permits are required at this time.

**1.6.2.3 State of Utah Permits and Approvals for Activities Off the Reservation**

Utah Department of Environmental Quality: The State of Utah regulates proper disposition of storm water through a Utah Pollution Discharge Elimination System (UPDES) General Permit (UAC R137-8-3.8). The UPDES is required for construction activities that disturb more than 2 ha (5 acres) in order to secure coverage under the UPDES permit authorizing construction-related storm water discharges. Since the construction activities for the rail line or the ITF would exceed this acreage limit, PFS would submit a notice of intent (NOI) at least 48 hours prior to initiation of construction activities. The NOI would be similar in content to the one submitted to the EPA.

Utah Department of Environmental Quality: PFS would be required to file a Joint Application to obtain a Stream Alteration Permit from the Utah State Engineer to satisfy CWA Section 401 water quality certification requirement and to obtain a permit from the ACE to satisfy the provisions of CWA Section 404.

Utah Department of Environmental Quality: PFS is not expected to generate large quantities of hazardous wastes (as regulated under RCRA). Accordingly, PFS would likely be classified as a Conditionally Exempt Small Quantity Generator (CESQG). To document the proper management and disposal of these wastes, PFS anticipates filing for a RCRA ID number to seek the CESQG classification. The Utah DEQ is responsible for issuing RCRA ID numbers. ERPA Form 8700-12 must be filed with the application for the RCRA ID number. The form has been completed and PFS expects to file the application shortly.

Utah Department of Transportation: In the event that heavy-haul vehicles are used to transport licensed SNF shipping casks on Skull Valley Road, a road-use permit would have to be obtained from the State because of the size and weight of the proposed vehicles.

Utah State Historic Preservation Office (SHPO): While a specific permit is not required directly from the SHPO, PFS must comply with the terms of the consultation completed between the cooperating agencies, the Skull Valley Band, and the SHPO (see Section 1.5.5).

State of Utah, Division of Water Rights: Water rights in Tooele County are regulated by the State, which allocates use through water rights processes. Any use of surface water or groundwater in Skull Valley other than on the Reservation by PFS would be subject to these processes.